

# TEXAS DEPARTMENT OF INSURANCE

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## PRODUCT EVALUATION RC-47

Effective November 1, 2010  
Revised August 1, 2011

*The following product has been evaluated for compliance with the wind loads specified in the **International Residential Code (IRC)** and the **International Building Code (IBC)**. This product shall be subject to reevaluation **November 2014**.*

*This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.*

*This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.*

**Certainteed Flintlastic Modified Bitumen STA, GMS, GTS, GTA, and FR-P** manufactured by

**Certainteed Corporation**  
**P O Box 860**  
**Valley Forge, PA 19482**  
**(610) 341-6295**

will be accepted in designated catastrophe zones along the Texas Gulf Coast when installed in accordance with the manufacturer's installation instructions and this product evaluation.

## PRODUCT DESCRIPTION

**FLINTLASTIC STA and FLINTLASTIC STA PLUS 5.0** is an APP modified bitumen smooth surfaced roll roofing product.

**FLINTLASTIC GMS and Flintlastic Premium GMS** SBS modified bitumen granule surfaced roll roofing products are intended for use as a cap sheet.

**FLINTLASTIC GMS COOLSTAR and FLINTLASTIC GMS PREMIUM GMS COOLSTAR** SBS modified bitumen white reflective surfaced roll roofing intended for use as a cap sheet.

**FLINTLASTIC FR-P and FLINTLASTIC Premium FR-P** SBS modified bitumen fire-resistant granule surfaced roll roofing products are intended for use as a cap sheet.

**FLINTLASTIC FR-P COOLSTAR and FLINTLASTIC Premium FR-P COOLSTAR** SBS modified bitumen fire-resistant white reflective surfaced roll roofing products are intended for use as a cap sheet.

**FLINTLASTIC FR CAP 30** SBS modified bitumen fiberglass mat roll roofing membrane intended for use as a cap sheet or as a heavy-duty venting type base sheet.

**FLINTLASTIC CAP 30** SBS modified bitumen fiberglass mat roll roofing membrane intended for use as a cap sheet or as a heavy-duty venting type base sheet.

**FLINTLASTIC FR CAP 30 T** granule surfaced SBS modified bitumen membrane with fiberglass mat reinforcement for torch application.

**FLINTLASTIC FR CAP 30 COOLSTAR** SBS modified bitumen fiberglass mat roll roofing membrane with a white, reflective top surface intended for use as a cap sheet in mop applications.

**FLINTLASTIC FR CAP 30 T COOLSTAR** SBS modified bitumen fiberglass mat roll roofing membrane with a white, reflective top surface intended for use as a cap sheet in torch applications.

**FLINTLASTIC Base 20** SBS modified bitumen, fire resistant, coated fiberglass base sheet intended for hot asphalt applications.

**FLINTLASTIC Base 20 T** SBS modified bitumen, fire resistant, coated fiberglass base sheet intended for heat fused (torch) application.

**FLEXIGLAS PREMIUM Cap Sheet 960** mineral surfaced fiber glass cap sheet intended for use as a cap sheet.

**FLEXIGLAS PREMIUM Cap Sheet 960 COOLSTAR** white reflective surfaced fiber glass cap sheet intended for use as a cap sheet.

**FLINTGLAS Ply Sheet Type IV** is a fiberglass reinforced, asphalt impregnated ply sheet.

**FLINTGLAS Premium Ply Sheet Type VI** is a fiberglass reinforced, asphalt impregnated base/ply sheet.

**FLINTGLAS CAP SHEET** Mineral Surfaced Fiber Glass mat roll roofing membrane intended for use as a cap sheet or as a heavy-duty venting type base sheet.

**FLINTGLAS CAP SHEET COOLSTAR** white reflective surfaced fiber glass mat roll roofing membrane intended for use as a cap sheet or as a heavy-duty venting type base sheet.

**FLINTLASTIC ULTRA POLY SMS BASE SHEET** SBS modified asphalt coated polyester base sheet designed for use as a base sheet for hot and cold applied SBS modified bitumen or built-up roofing (1 meter wide).

**FLINTLASTIC BLACK OR WHITE DIAMOND GTA** APP modified bitumen roll roofing membrane intended for heat fused (torch) application only.

**FLINTLASTIC WHITE DIAMOND GTA COOLSTAR** APP modified bitumen roll roofing membrane intended for heat fused (torch) application only.

**FLINTLASTIC GTA and FLINTLASTIC GTA-FR** APP modified bitumen roll roofing membrane intended for heat fused (torch) application only.

**FLINTLASTIC GTA COOLSTAR and FLINTLASTIC GTA-FR COOLSTAR** APP modified bitumen roll roofing membrane intended for heat fused (torch) application only.

**FLINTLASTIC SA-P CAP** SBS modified polyester and fiberglass scrim reinforced granule surfaced cap sheet designed for self-adhered application.

**FLINTLASTIC SA CAP FR** SBS modified bitumen, fiberglass scrim reinforced, granule surfaced cap sheet designed for self-adhered application.

**FLINTLASTIC SA-P CAP SHEET COOLSTAR and FLINTLASTIC SA-P CAP FR SHEET COOLSTAR** SBS modified polyester and fiberglass scrim reinforced white reflective surfaced cap sheet designed for self-adhered application.

**FLINTLASTIC SA MIDPLY** SBS modified bitumen, polyester/fiberglass scrim reinforced film surfaced base or ply sheet designed for self-adhered application.

**FLINTLASTIC SA PLYBASE** SBS modified bitumen, fiberglass scrim reinforced film surfaced base or ply sheet designed for self-adhered application.

**FLINTLASTIC SA NAILBASE** SBS modified fiberglass reinforced film surfaced base sheet designed for use as a base sheet under self-adhered applications (1 meter wide).

**GLASBASE BASE SHEET** fiberglass reinforced, asphaltic base sheet (1 meter wide).

**ALL WEATHER/EMPIRE BASE SHEET** fiberglass reinforced, asphaltic base sheet (1 meter wide).

**FLEXIGLAS BASE SHEET** fiberglass reinforced, SBS modified asphaltic base sheet (1 meter wide).

**FLINTLASTIC POLY SMS BASE SHEET** polyester reinforced, SBS modified, asphaltic base sheet (1 meter wide).

**FLINTPRIME SA WATER-BASED POLYMER MODIFIED PRIMER** designed for priming fasteners, and roof decks under self-adhered membranes.

Note: 1 meter = approximately  $39 \frac{3}{8}$  inches

## LIMITATIONS

**For All Applications:** Roof decks, on which this product is to be installed, shall be provided with positive drainage. A minimum roof slope after construction of  $\frac{1}{4}$  inch per foot is recommended.

## INSTALLATION INSTRUCTIONS

**General Installation Requirements:** Follow all manufacturer's installation instructions, unless otherwise specified by this product evaluation.

TABLE 1: WIND UPLIFT PERFORMANCE - MECHANICALLY ATTACHED BASE SHEET <sup>1,2,3</sup>									
Assembly No.	Substrate <sup>A</sup>	Base Insulation Layer(s)		Top Insulation Layer		Roof Cover			
		Type	Attachment	Type	Attachment	Base Sheet	Fasteners	Ply Sheet	Cap Sheet
1.	Min. 15/32-inch APA wood structural panel sheathing, Exposure 1, 32/16; or nominal 1-inch board decking.	None	N/A	None	N/A	CertainTeed Glasbase (Type II) (1 meter wide)	Cap nails <sup>B</sup> with a min. 1-inch diameter by 0.032-inch thick cap and a 0.120-inch diameter galvanized annular ring shank	(Optional) Applied in hot asphalt <sup>F</sup>	Applied in hot asphalt or heat fused <sup>G</sup>

### Design Pressure (psf)

### Base Sheet Fastener Spacing

0 < P ≤ -48	Maximum 7-inch o.c. in a 4-inch lap and 10-inch o.c. in two equally spaced, staggered rows in the field of the sheet
-48 < P ≤ -60	Maximum 7-inch o.c. in a 4-inch lap and 7-inch o.c. in two equally spaced, staggered rows in the field of the sheet
-60 < P ≤ -70	Maximum 8-inch o.c. in a 4-inch lap and 8-inch o.c. in three equally spaced, staggered rows in the field of the sheet
-70 < P ≤ -80	Maximum 7-inch o.c. in a 4-inch lap and 7-inch o.c. in three equally spaced, staggered rows in the field of the sheet
-80 < P ≤ -90	Maximum 6-inch o.c. in a 4-inch lap and 6-inch o.c. in three equally spaced, staggered rows in the field of the sheet
-90 < P ≤ -100	Maximum 7-inch o.c. in a 4-inch lap and 7-inch o.c. in four equally spaced, staggered rows in the field of the sheet
-100 < P ≤ -120	Maximum 6-inch o.c. in a 4-inch lap and 6-inch o.c. in four equally spaced, staggered rows in the field of the sheet

TABLE 1 (Continued): WIND UPLIFT PERFORMANCE - MECHANICALLY ATTACHED BASE SHEET <sup>1,2,3</sup>									
Assembly No.	Substrate <sup>A</sup>	Base Insulation Layer(s)		Top Insulation Layer		Roof Cover			
		Type	Attachment	Type	Attachment	Base Sheet	Fasteners	Ply Sheet	Cap Sheet
2.	Min. 15/32-inch APA wood structural panel sheathing, Exposure 1, 32/16, or nominal 1-inch board decking.	None	N/A	None	N/A	CertainTeed Glasbase (Type II) (1 meter wide)	3-inch diameter by 0.021-inch thick formed steel discs and No. 12-13, No. 3 Phillips drive, truss head corrosion resistant screws <sup>C</sup>	None	Flintlastic FR-P or GMS applied in Fibrex Cement or Henry "MBA Gold" at 1.5 gal/square.

**Design Pressure (psf)**

**Base Sheet Fastener Spacing**

0 < P ≤ -40	Maximum 7-inch o.c. in a 4-inch lap and 10-inch o.c. in two equally spaced, staggered rows in the field of the sheet
-40 < P ≤ -50	Maximum 7-inch o.c. in a 4-inch lap and 7-inch o.c. in two equally spaced, staggered rows in the field of the sheet
-50 < P ≤ -60	Maximum 6-inch o.c. in a 4-inch lap and 6-inch o.c. in two equally spaced, staggered rows in the field of the sheet
-60 < P ≤ -80	Maximum 6-inch o.c. in a 4-inch lap and 6-inch o.c. in three equally spaced, staggered rows in the field of the sheet
-80 < P ≤ -100	Maximum 6-inch o.c. in a 4-inch lap and 6-inch o.c. in four equally spaced, staggered rows in the field of the sheet
-100 < P ≤ -120	Maximum 6-inch o.c. in a 4-inch lap and 6-inch o.c. in five equally spaced, staggered rows in the field of the sheet

TABLE 1 (Continued): WIND UPLIFT PERFORMANCE - MECHANICALLY ATTACHED BASE SHEET <sup>1,2,3</sup>									
Assembly No.	Substrate <sup>A</sup>	Base Insulation Layer(s)		Top Insulation Layer		Roof Cover			
		Type	Attachment	Type	Attachment	Base Sheet	Fasteners	Ply Sheet	Cap Sheet
3.	Min. 15/32-inch APA wood structural panel sheathing, Exposure 1, 32/16; or nominal 1-inch board decking.	Polyisocyanurate	Loose laid with staggered joints	(Optional) Perlite or wood fiberboard	Loose laid with staggered joints	CertainTeed Glasbase (Type II) (1 meter wide)	3-inch diameter by 0.021-inch thick formed steel discs and No. 12-13, No. 3 Phillips drive, truss head corrosion resistant screws <sup>C</sup>	(Optional) Applied in hot asphalt <sup>F</sup>	Applied in hot asphalt or heat fused <sup>G</sup>

**Design Pressure (psf)**

**Base Sheet Fastener Spacing**

0 < P ≤ -42	Maximum 7-inch o.c. in a 4-inch lap and 10-inch o.c. in two equally spaced, staggered rows in the field of the sheet
-42 < P ≤ -50	Maximum 7-inch o.c. in a 4-inch lap and 7-inch o.c. in two equally spaced, staggered rows in the field of the sheet
-50 < P ≤ -60	Maximum 6-inch o.c. in a 4-inch lap and 6-inch o.c. in two equally spaced, staggered rows in the field of the sheet
-60 < P ≤ -70	Maximum 7-inch o.c. in a 4-inch lap and 7-inch o.c. in three equally spaced, staggered rows in the field of the sheet
-70 < P ≤ -80	Maximum 6-inch o.c. in a 4-inch lap and 6-inch o.c. in three equally spaced, staggered rows in the field of the sheet
-80 < P ≤ -90	Maximum 7-inch o.c. in a 4-inch lap and 7-inch o.c. in four equally spaced, staggered rows in the field of the sheet
-90 < P ≤ -100	Maximum 6-inch o.c. in a 4-inch lap and 6-inch o.c. in four equally spaced, staggered rows in the field of the sheet
-100 < P ≤ -120	Maximum 6-inch o.c. in a 4-inch lap and 6-inch o.c. in five equally spaced, staggered rows in the field of the sheet

TABLE 1 (Continued): WIND UPLIFT PERFORMANCE - MECHANICALLY ATTACHED BASE SHEET <sup>1,2,3</sup>									
Assembly No.	Substrate <sup>A</sup>	Base Insulation Layer(s)		Top Insulation Layer		Roof Cover			
		Type	Attachment	Type	Attachment	Base Sheet	Fasteners	Ply Sheet	Cap Sheet
4.	Min. 19/32-inch APA wood structural panel sheathing, Exposure 1, 40/20; or nominal 1-inch board decking.	None	N/A	None	N/A	CertainTeed Glasbase (Type II) (1 meter wide)	11 ga. annular ring shank nails and 1-5/8" diameter tin caps <sup>D</sup>	(Optional) Applied in hot asphalt <sup>F</sup>	Applied in hot asphalt or heat fused <sup>G</sup>
5.	Min. 19/32-inch APA wood structural panel sheathing, Exposure 1, 40/20; or nominal 1-inch board decking.	None	N/A	None	N/A	Flintlastic SA NailBase (1 meter wide)	11 ga. annular ring shank nails and 1-5/8" diameter tin caps <sup>D</sup>	Self-adhered <sup>F</sup>	Self-adhered <sup>G</sup>

**Design Pressure (psf)**

**Base Sheet Fastener Spacing**

0 < P ≤ -60	Maximum 7-inch o.c. in a 4-inch lap and 7-inch o.c. in three equally spaced, staggered rows in the field of the sheet
-60 < P ≤ -70	Maximum 7-inch o.c. in a 4-inch lap and 8-inch o.c. in four equally spaced, staggered rows in the field of the sheet
-70 < P ≤ -90	Maximum 6-inch o.c. in a 4-inch lap and 6-inch o.c. in four equally spaced, staggered rows in the field of the sheet
-90 < P ≤ -110	Maximum 6-inch o.c. in a 4-inch lap and 6-inch o.c. in five equally spaced, staggered rows in the field of the sheet
-110 < P ≤ -120	Maximum 5-inch o.c. in a 4-inch lap and 5-inch o.c. in five equally spaced, staggered rows in the field of the sheet

TABLE 1 (Continued): WIND UPLIFT PERFORMANCE - MECHANICALLY ATTACHED BASE SHEET <sup>1,2,3</sup>							
Assembly No.	Substrate <sup>A</sup>	Insulation Layer(s)		Roof Cover			
		Type	Attachment	Base Sheet	Fasteners	Ply Sheet	Cap Sheet
6.	Min. 19/32-inch APA plywood sheathing, Exposure 1, 40/20; or nominal 1-inch board decking.	(Optional) One or more layers, any combination	Preliminarily attached	Flintlastic SA NailBase (1 meter wide)	OMG 3" Galvalume Steel Plates or Flat Bottom Plates with OMG #12 Standard or #12 Roofgrip, Tru-Fast MP-3 with Tru-Fast #12 DP, Dekfast Hex with Dekfast #12 or Flintfast 3" Plate with Flintfast #12 <sup>C</sup>  NOTE: Stress plates shall be primed with FlintPrime SA	Self-Adhered <sup>F</sup>	Self-Adhered <sup>G</sup>

**Design Pressure (psf)**

**Base Sheet Fastener Spacing**

0 < P ≤ -82.5	Maximum 8-inch o.c. in a 4-inch lap and 8-inch o.c. in two equally spaced, staggered rows in the field of the sheet
-82.5 < P ≤ -90	Maximum 7-inch o.c. in a 4-inch lap and 7-inch o.c. in two equally spaced, staggered rows in the field of the sheet
-90 < P ≤ -110	Maximum 8-inch o.c. in a 4-inch lap and 8-inch o.c. in three equally spaced, staggered rows in the field of the sheet
-110 < P ≤ -120	Maximum 9-inch o.c. in a 4-inch lap and 9-inch o.c. in four equally spaced, staggered rows in the field of the sheet

TABLE 1 (Continued): WIND UPLIFT PERFORMANCE - MECHANICALLY ATTACHED BASE SHEET <sup>1,2,3</sup>									
Assembly No.	Substrate <sup>A</sup>	Base Insulation Layer(s)		Top Insulation Layer		Roof Cover			
		Type	Attachment	Type	Attachment	Base Sheet	Fasteners	Ply Sheet	Cap Sheet
7.	Min. 19/32-inch APA wood structural panel sheathing, Exposure 1, 40/20; or nominal 1-inch board decking.	None	N/A	None	N/A	Flintglas Premium Ply Sheet (Type VI) (36-inch wide)	11 ga. annular ring shank nails and 1-5/8" diameter tin caps <sup>D</sup>	(Optional) Applied in hot asphalt <sup>F</sup>	Applied in hot asphalt or heat fused <sup>G</sup>

**Design Pressure (psf)**

**Base Sheet Fastener Spacing**

0 < P ≤ -60	Maximum 8-inch o.c. in a 4-inch lap and 8-inch o.c. in three equally spaced, staggered rows in the field of the sheet
-60 < P ≤ -70	Maximum 6-inch o.c. in a 4-inch lap and 7-inch o.c. in three equally spaced, staggered rows in the field of the sheet
-70 < P ≤ -80	Maximum 6-inch o.c. in a 4-inch lap and 6-inch o.c. in three equally spaced, staggered rows in the field of the sheet
-80 < P ≤ -100	Maximum 6-inch o.c. in a 4-inch lap and 6-inch o.c. in four equally spaced, staggered rows in the field of the sheet
-100 < P ≤ -120	Maximum 5-inch o.c. in a 4-inch lap and 5-inch o.c. in four equally spaced, staggered rows in the field of the sheet

TABLE 1 (Continued): WIND UPLIFT PERFORMANCE - MECHANICALLY ATTACHED BASE SHEET <sup>1,2,3</sup>									
Assembly No.	Substrate <sup>A</sup>	Base Insulation Layer(s)		Top Insulation Layer		Roof Cover			
		Type	Attachment	Type	Attachment	Base Sheet	Fasteners	Ply Sheet	Cap Sheet
8.	Min. 15/32-inch plywood sheathing	None	N/A	None	N/A	GlasBase or Poly SMS Base Sheet	1-inch Simplex Metal Cap nails <sup>B</sup>	(Optional) Applied in hot asphalt or heat fused <sup>F</sup>	Applied in hot asphalt or heat fused <sup>G</sup>
9.	Min. 15/32-inch plywood sheathing	None	N/A	None	N/A	Flintlastic SA NailBase	1-inch Simplex Metal Cap nails <sup>B</sup>	Self-Adhered <sup>F</sup>	Self-Adhered <sup>G</sup>

**Design Pressure (psf)**

**Base Sheet Fastener Spacing**

0 < P ≤ -52.5	Maximum 6-inch o.c. in a 3-inch lap and 6-inch o.c. in four equally spaced, staggered center rows
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TABLE 1 (Continued): WIND UPLIFT PERFORMANCE - MECHANICALLY ATTACHED BASE SHEET <sup>1,2,3</sup>									
Assembly No.	Substrate <sup>A</sup>	Base Insulation Layer(s)		Top Insulation Layer		Roof Cover			
		Type	Attachment	Type	Attachment	Base Sheet	Fasteners	Ply Sheet	Cap Sheet
10.	Min. 15/32-inch plywood sheathing	None	N/A	None	N/A	GlasBase	OMG 3" Round Metal Plates with TruFast DP or OMG #14 HD Fasteners, Trufast MP-3 with Trufast DP or Trufast HD fasteners or FlintFast 3" Insulation Plates with FlintFast #12 or FlintFast #14 Fasteners <sup>C</sup>	(Optional) Applied in hot asphalt or heat fused <sup>F</sup>	Applied in hot asphalt or heat fused <sup>G</sup>
11.	Min. 15/32-inch plywood sheathing	None	N/A	None	N/A	Flintlastic SA NailBase	OMG 3" Round Metal Plates with TruFast DP or OMG #14 HD Fasteners, Trufast MP-3 with Trufast DP or Trufast HD fasteners or FlintFast 3" Insulation Plates with FlintFast #12 or FlintFast #14 Fasteners <sup>C</sup>	Self-Adhered <sup>F</sup>	Self-Adhered <sup>G</sup>

**Design Pressure (psf)**    **Base Sheet Fastener Spacing**

0 < P ≤ -97.5    Maximum 6-inch o.c. in a 4-inch lap and 6-inch o.c. in three equally spaced, staggered center rows

TABLE 1 (Continued): WIND UPLIFT PERFORMANCE - MECHANICALLY ATTACHED BASE SHEET <sup>1,2,3</sup>									
Assembly No.	Substrate <sup>A</sup>	Base Insulation Layer(s)		Top Insulation Layer		Roof Cover			
		Type	Attachment	Type	Attachment	Base Sheet	Fasteners	Ply Sheet	Cap Sheet
12.	Min. 15/32-inch plywood sheathing	None	N/A	None	N/A	GlasBase	OMG 3" Round Metal Plates with TruFast DP or OMG #14 HD Fasteners, Trufast MP-3 with Trufast DP or Trufast HD fasteners or FlintFast 3" Insulation Plates with FlintFast #12 or FlintFast #14 Fasteners <sup>C</sup>	(Optional) Applied in hot asphalt or heat fused <sup>F</sup>	Applied in hot asphalt or heat fused <sup>G</sup>
13.	Min. 15/32-inch plywood sheathing	None	N/A	None	N/A	Flintlastic SA NailBase	OMG 3" Round Metal Plates with TruFast DP or OMG #14 HD Fasteners, Trufast MP-3 with Trufast DP or Trufast HD fasteners or FlintFast 3" Insulation Plates with FlintFast #12 or FlintFast #14 Fasteners <sup>C</sup>	Self-Adhered <sup>F</sup>	Self-Adhered <sup>G</sup>

**Design Pressure (psf)**

0 < P ≤ -127.5

**Base Sheet Fastener Spacing**

Maximum 6-inch o.c. in a 4-inch lap and 6-inch o.c. in four equally spaced, staggered center rows

TABLE 2: WIND UPLIFT PERFORMANCE - MECHANICALLY ATTACHED INSULATION <sup>1,2,3</sup>								
Assembly No.	Substrate <sup>A</sup>	Base Insulation Layer(s)		Top Insulation Layer		Roof Cover		
		Type	Attachment	Type	Fasteners	Base Sheet	Ply Sheet	Cap Sheet
14.	Min. 19/32-inch APA plywood panel sheathing, Exposure 1, 40/20; or nominal 1-inch board decking.	(Optional) One or more layers ASTM C1289, Type II polyisocyanurate insulation	Loose laid	Min. 1/4" thick DensDeck primed with FlintPrime SA at 0.3 gal/square.	Dekfast #14 with Hex Plates, TruFast HD with MP-3 Plates, OMG Roofgrip #14 with Flat Bottom Plates or OMG HD screws with OMG Standard Metal Plates <sup>C</sup>	Self-adhered <sup>E</sup>	(Optional) Self-adhered <sup>F</sup>	Self-adhered <sup>G</sup>

**Required Insulation Board Fastener Spacing and Pattern to Attain Design Pressure (psf)**

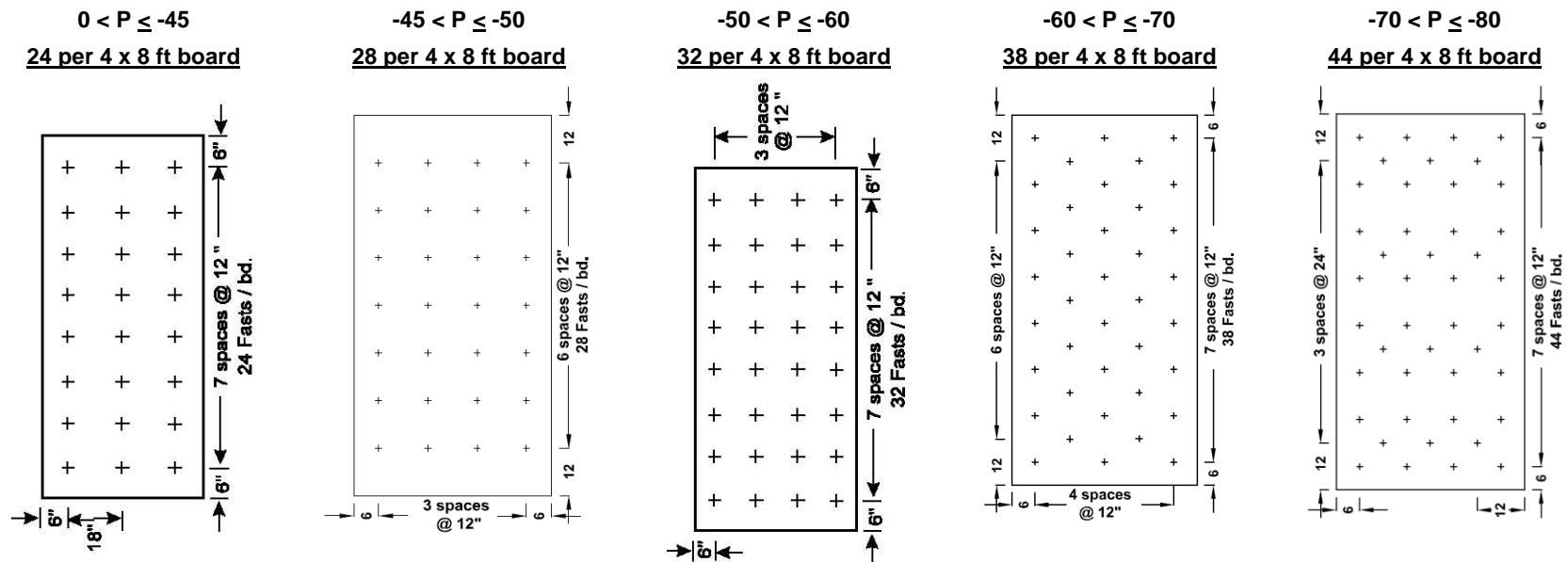


TABLE 2 (Continued): WIND UPLIFT PERFORMANCE - MECHANICALLY ATTACHED INSULATION <sup>1,2,3</sup>								
Assembly No.	Substrate <sup>A</sup>	Base Insulation Layer(s)		Top Insulation Layer		Roof Cover		
		Type	Attachment	Type	Fasteners	Base Sheet	Ply Sheet	Cap Sheet
15.	Min. 19/32-inch APA plywood panel sheathing, Exposure 1, 40/20; or nominal 1-inch board decking.	(Optional) One or more layers, any combination	Loose laid	Min. 1.5" thick ACFoam II, ENRGY 3, H-Shield, Multi-Max FA3 or FlintISO	OMG 3" Galvalume Steel Plates or Flat Bottom Plates with OMG #12 Standard or #12 Roofgrip, Tru-Fast MP-3 with Tru-Fast #12 DP, Dekfast Hex with Dekfast #12 or Flintfast 3" Plate with Flintfast #12 <sup>C</sup>  NOTE: Insulation and stress plates shall be primed with FlintPrime SA	Self-adhered <sup>E</sup>	(Optional) Self-adhered <sup>F</sup>	Self-adhered <sup>G</sup>

**Required Insulation Board Fastener Spacing and Pattern to Attain Design Pressure (psf)**

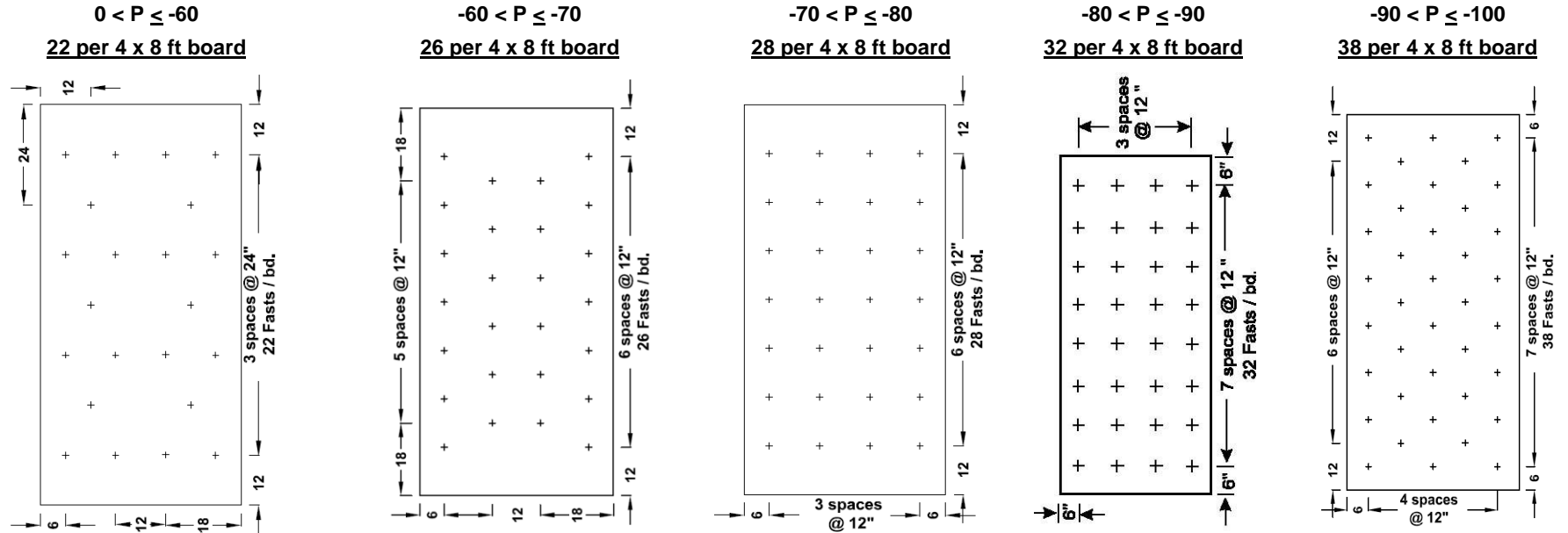


TABLE 3: WIND UPLIFT PERFORMANCE - MECHANICALLY ATTACHED ANCHOR SHEET <sup>1,2,3</sup>								
Assembly No.	Substrate <sup>A</sup>	Anchor Sheet	Fasteners	Insulation		Roof Cover		
				Base Layer	Top Layer	Base Sheet	Ply Sheet	Cap Sheet
16.	Min. 19/32-inch APA wood structural panel sheathing, Exposure 1, 40/20; or nominal 1-inch board decking.	CertainTeed Glasbase (Type II) (1 meter wide)	11 ga. annular ring shank nails and 1-5/8" diameter tin caps <sup>D</sup>	One or more layers min. 1.5" thick AC Foam II, ENRGY 3 or Multi-Max FA applied in hot asphalt at 25 lbs/square.	None	Black Diamond Base Sheet, self-adhered	(Optional) Applied in hot asphalt <sup>F</sup>	Applied in hot asphalt or heat fused <sup>G</sup>
17.	Min. 19/32-inch APA wood structural panel sheathing, Exposure 1, 40/20; or nominal 1-inch board decking.	CertainTeed Glasbase (Type II) (1 meter wide)	11 ga. annular ring shank nails and 1-5/8" diameter tin caps <sup>D</sup>	One or more layers polyisocyanurate insulation applied in hot asphalt at 25 lbs/square.	Min. 3/4" thick perlite, min. 1/2" thick wood fiberboard, min. 1/4" thick DensDeck or DensDeck Prime applied in hot asphalt at 25 lbs/square.	Applied in hot asphalt <sup>E</sup>	(Optional) Applied in hot asphalt <sup>F</sup>	Applied in hot asphalt or heat fused <sup>G</sup>

**Design Pressure (psf)**      **Anchor Sheet Fastener Spacing**

0 < P ≤ -60	Maximum 7-inch o.c. in a 4-inch lap and 7-inch o.c. in three equally spaced, staggered rows in the field of the sheet
-60 < P ≤ -70	Maximum 7-inch o.c. in a 4-inch lap and 8-inch o.c. in four equally spaced, staggered rows in the field of the sheet
-70 < P ≤ -90	Maximum 6-inch o.c. in a 4-inch lap and 6-inch o.c. in four equally spaced, staggered rows in the field of the sheet
-90 < P ≤ -110	Maximum 6-inch o.c. in a 4-inch lap and 6-inch o.c. in five equally spaced, staggered rows in the field of the sheet
-110 < P ≤ -120	Maximum 5-inch o.c. in a 4-inch lap and 5-inch o.c. in five equally spaced, staggered rows in the field of the sheet

TABLE 3 (CONTINUED): WIND UPLIFT PERFORMANCE - MECHANICALLY ATTACHED ANCHOR SHEET <sup>1,2,3</sup>								
Assembly No.	Substrate <sup>A</sup>	Anchor Sheet	Fasteners	Insulation		Roof Cover		
				Base Layer	Top Layer	Base Sheet	Ply Sheet	Cap Sheet
18.	Min. 19/32-inch APA wood structural panel sheathing, Exposure 1, 40/20; or nominal 1-inch board decking.	Flintglas Premium Ply Sheet (Type VI) (36-inch wide)	11 ga. annular ring shank nails and 1-5/8" diameter tin caps <sup>D</sup>	One or more layers min. 1.5" thick ACFoam II, ENRGY 3 or Multi-Max FA applied in hot asphalt at 25 lbs/square.	None	Black Diamond Base Sheet, self-adhered	(Optional) Applied in hot asphalt <sup>F</sup>	Applied in hot asphalt or heat fused <sup>G</sup>
19.	Min. 19/32-inch APA wood structural panel sheathing, Exposure 1, 40/20; or nominal 1-inch board decking.	Flintglas Premium Ply Sheet (Type VI) (36-inch wide)	11 ga. annular ring shank nails and 1-5/8" diameter tin caps <sup>D</sup>	One or more layers polyisocyanurate insulation applied in hot asphalt at 25 lbs/square.	Min. 3/4" thick perlite, min. 1/2" thick wood fiberboard, min. 1/4" thick DensDeck or DensDeck Prime applied in hot asphalt at 25 lbs/square.	Applied in hot asphalt <sup>E</sup>	(Optional) Applied in hot asphalt <sup>F</sup>	Applied in hot asphalt or heat fused <sup>G</sup>

**Design Pressure (psf)**

**Base Sheet Fastener Spacing**

0 < P ≤ -60	Maximum 8-inch o.c. in a 4-inch lap and 8-inch o.c. in three equally spaced, staggered rows in the field of the sheet
-60 < P ≤ -70	Maximum 6-inch o.c. in a 4-inch lap and 7-inch o.c. in three equally spaced, staggered rows in the field of the sheet
-70 < P ≤ -80	Maximum 6-inch o.c. in a 4-inch lap and 6-inch o.c. in three equally spaced, staggered rows in the field of the sheet
-80 < P ≤ -100	Maximum 6-inch o.c. in a 4-inch lap and 6-inch o.c. in four equally spaced, staggered rows in the field of the sheet
-100 < P ≤ -120	Maximum 5-inch o.c. in a 4-inch lap and 5-inch o.c. in four equally spaced, staggered rows in the field of the sheet

TABLE 3 (Continued): WIND UPLIFT PERFORMANCE - MECHANICALLY ATTACHED ANCHOR SHEET <sup>1,2,3</sup>								
Assembly No.	Substrate <sup>A</sup>	Anchor Sheet	Fasteners	Insulation		Roof Cover		
				Base Layer	Top Layer	Base Sheet	Ply Sheet	Cap Sheet
20.	Min. 19/32-inch APA plywood Exposure 1, 40/20; or nominal 1-inch board decking.	CertainTeed All Weather Empire, Flexiglas Base Sheet, PolySMS or UltraPoly SMS (1 meter wide)	11 ga. annular ring shank nails and 1-5/8" diameter tin caps <sup>D</sup>	Min. 1.5" AC Foam II, ENRGY 3, H-Shield, Multi-Max FA3 or FlintISO applied in Insta-Stick, OlyBond 500, OlyBond Green, Plideck, TITASET or WeatherTite One Step Foamable in beads spaced max. 4" o.c. Note: Adhesive rate shall be increased to full-coverage in all perimeter and corner zones	(Optional) Min. 0.25" DensDeck, DensDeck Prime or Securock in beads spaced max. 6" o.c. Note: Adhesive rate shall be increased to full-coverage in all perimeter and corner zones Note: Top layer shall be primed with FlintPrime SA	Self-adhered <sup>E</sup>	(Optional) Self-adhered <sup>F</sup>	Self-adhered <sup>G</sup>

**Design Pressure (psf)    Anchor Sheet Fastener Spacing**

0 < P ≤ -52.5	Maximum 8-inch o.c. in a 4-inch lap and 8-inch o.c. in three equally spaced, staggered rows in the field of the sheet
-52.5 < P ≤ -60	Maximum 7-inch o.c. in a 4-inch lap and 7-inch o.c. in three equally spaced, staggered rows in the field of the sheet
-60 < P ≤ -70	Maximum 7-inch o.c. in a 4-inch lap and 7-inch o.c. in four equally spaced, staggered rows in the field of the sheet
-70 < P ≤ -80	Maximum 6-inch o.c. in a 4-inch lap and 6-inch o.c. in four equally spaced, staggered rows in the field of the sheet
-80 < P ≤ -100	Maximum 6-inch o.c. in a 4-inch lap and 6-inch o.c. in five equally spaced, staggered rows in the field of the sheet

TABLE 4: WIND UPLIFT PERFORMANCE – NON-INSULATED, FULLY BONDED ROOF COVER <sup>1</sup>					
Assembly No.	Substrate <sup>A</sup>	Primer	Roof Cover		
			Base Sheet	Ply Sheet	Cap Sheet
21.	Min. 19/32-inch APA plywood panel sheathing, Exposure 1, 40/20	FlintPrime SA	FLINTLASTIC SA MID-PLY and SA PlyBase	(Optional) Self-adhered <sup>F</sup>	Self-adhered <sup>G</sup>

**Design Pressure:** ≤ **-127.5 psf**

**Footnotes for Tables 1, 2, 3 and 4:**

**1. Drip Edge Installation Note:**

The roll roofing membrane base sheet, anchor sheet, insulation, ply sheet and cap sheet shall not overhang the edge of the roof.

If the roof does not have a parapet wall surrounding it, then a galvanized metal flashing with an uplifted outer perimeter edge shall be installed around the perimeter of the roof.

The membrane must cover the flange that lays on and is fastened to the roof deck, but the uplifted outer perimeter edge must remain exposed.

**2. Mechanically Fastened Base, Anchor and Ply Sheet Installation Note, Metric and Standard Sheet Width:**

The fastener spacing was determined for the 1-meter wide sheet except in Assemblies 7, 8 and 19 where the 36-inch wide sheet is required.

The fastener spacing and side overlap requirements for the 1-meter wide sheet is acceptable for installing the 36-inch wide sheet in the other mechanically fastened assemblies.

The width of the sheet does not need to be inspected when it is applied in hot asphalt, heat fused or self-adhering.

**3. Mechanically Fastened Base, Anchor and Ply Sheet Installation Note, Screw and Formed Plate Descriptions:**

The screw and plate combinations specified in the assembly must be used. Do not mix screws and plates from different manufacturers.

OMG #12 Standard or Roofgrip #14 Screw: OMG Standard RoofGrip Fastener, #3 Phillips truss head, CR-10 corrosion-resistant coating.

OMG #12 Roofgrip or #14 HD Screw: OMG Heavy Duty Roofing Fastener, #3 Phillips truss head, CR-10 corrosion-resistant coating.

Tru-Fast #12 DP Screw: Tru-Fast #12 DP Drill Point Fastener, #3 Phillips truss head, Tru-Kote PC-3 corrosion-resistant coating.

Tru-Fast #14 HD Screw: Tru-Fast #14 HD Heavy Duty Fastener, #3 Phillips truss head, Tru-Kote PC-3 corrosion-resistant coating.

Tru-Fast #14 HD Screw: Tru-Fast #14 HD Stainless Steel Drill Point Fastener, #3 Phillips truss head, TrimRite stainless steel (ASTM B117 test).

Dekfast #12 or #14 Screw: SFS Intec #12 or #14 Dekfast Fastener, #3 Phillips truss head, FM 4470 corrosion resistance.

Flintfast #12 Screw: CertainTeed Flintfast #12 Fastener, #3 Phillips truss head, EPX epoxy coating, FM 4470 corrosion resistance.

OMG 3" Galvalume Steel Plate: OMG 3" Plate, Cat. No. SPGA3-R, Galvalume coated steel.

OMG 3" Flat Bottom or Standard Metal Plate: OMG 3" Galvanized Flat Plate, Cat. No. SPGA3C.

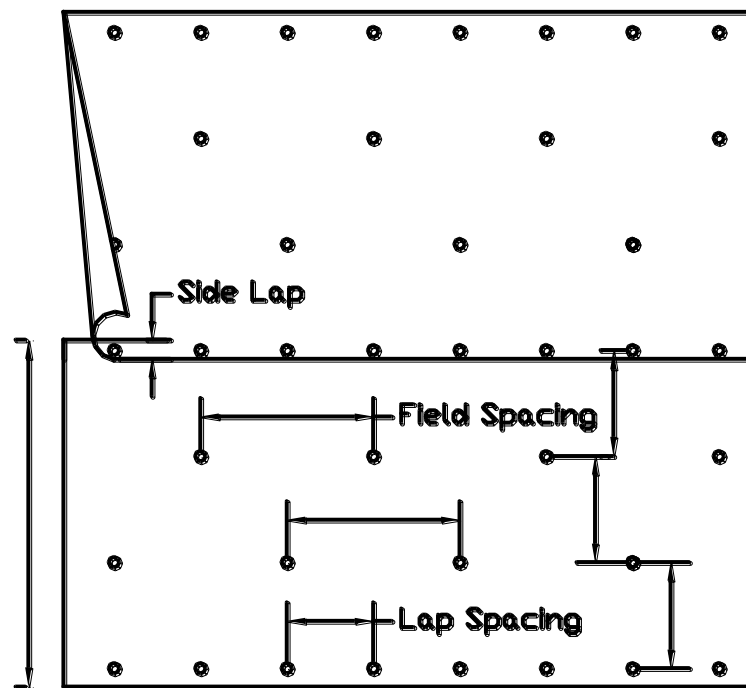
Tru-Fast MP-3 Plate: Tru-Fast MP-3 Metal Stress Plate, 26 ga., Galvalume AZ-50 corrosion-resistance.

Dekfast Hex Plate: SFS Intec Dekfast Galvalume Steel Hex Insulation Plate, 2  $\frac{7}{8}$ " dia., 0.020" thick, Part. No. M7550XS Galvalume AZ-50 corrosion-resistance.

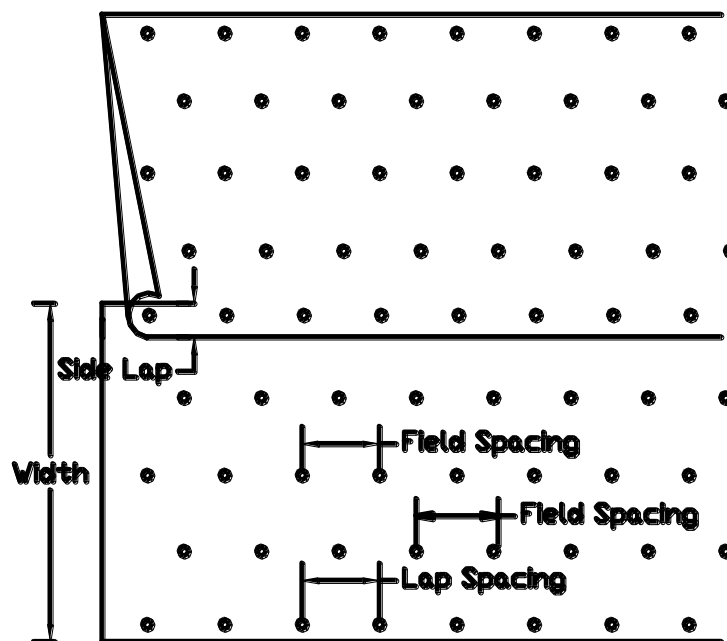
Flintfast 3" Plate: CertainTeed Flintfast 3" Galvalume Metal Insulation Plate, 20 ga. Galvalume steel.

**Footnotes for Tables 1, 2, 3 and 4 (Continued):**

- A. New wood structural panel sheathing (plywood or oriented strand board (OSB)) and board decking shall be attached to structural supports to meet design pressure requirements of the project.
- B. Cap nails shall be of sufficient length to penetrate the underside of the sheathing by not less than  $\frac{1}{2}$  inch or the underside of nominal 1-inch board decking by not less than  $\frac{1}{4}$  inch. Cap nails shall have a min. 1-inch diameter by 0.032-inch thick metal cap and a 0.120-inch diameter galvanized annular ring shank.
- C. Base sheet / insulation screws shall be of sufficient length to penetrate the underside of the sheathing by not less than  $\frac{3}{4}$  inch.
- D. Nails & tin cap shall be of sufficient length to penetrate the underside of the sheathing by not less than  $\frac{1}{2}$ -inch or the underside of nominal 1-inch board decking by not less than  $\frac{1}{4}$ -inch. Nails shall be minimum 11 gage, annular ring shank nails having not less than 20 rings per inch, heads not less than  $\frac{3}{8}$ -inch diameter. Cap shall be not less than 1  $\frac{5}{8}$ -inch diameter of not less than 32 gage sheet metal.
- E. Unless otherwise noted, BASE SHEET consists of:
- For hot asphalt applied: One ply of CERTAINTED GLASBASE (TYPE II) Base Sheet, FLEXIGLAS Base Sheet, FLINTLASTIC Base 20, POLY SMS Base, ULTRA POLY SMS, FLINTGLAS Ply Sheet (Type IV) or FLINTGLAS Premium Ply Sheet (Type VI), ASTM D4601, Type I or II, or ASTM D2178, Type IV or VI applied in hot asphalt at 25 lbs/square.
  - For heat fused: FLINTLASTIC Base 20 T
  - For self-adhering: FLINTLASTIC SA MID-PLY unless otherwise noted in the tables above.
- F. Unless otherwise noted, PLY SHEET consists of:
- For hot asphalt applied: One ply of CERTAINTED GLASBASE (TYPE II) Base Sheet, FLEXIGLAS Base Sheet, FLINTLASTIC Base 20, POLY SMS Base, ULTRA POLY SMS, ASTM D4601, Type I or II, one or more plies of FLINTGLAS Ply Sheet (Type IV), FLINTGLAS Premium Ply Sheet (Type VI), or ASTM D2178, Type IV or VI applied in hot asphalt at 25 lbs/square. For heat fused: FLINTLASTIC Base 20 T
  - For self-adhering: FLINTLASTIC SA Mid-Ply or FLINTLASTIC SA PlyBase
- G. Unless otherwise noted, CAP SHEET consists of:
- For hot asphalt applied: One ply of FLINTGLAS Mineral Surface Cap Sheet, FLINTGLAS Cap Sheet CoolStar, FLINTLASTIC GMS, FLINTLASTIC GMS CoolStar, FLINTLASTIC Premium GMS, FLINTLASTIC Premium GMS CoolStar, FLINTLASTIC FR-P, FLINTLASTIC FR-P CoolStar, FLINTLASTIC Premium FR-P, FLINTLASTIC Premium FR-P CoolStar, FLINTLASTIC FR Cap 30, FLINTLASTIC Cap 30, FLINTLASTIC FR Cap 30 CoolStar, FLEXIGLAS Premium Cap Sheet 960, FLEXIGLAS Premium Cap Sheet 960 CoolStar, or ULTRA POLY SMS applied in hot asphalt at 25 lbs/square.
  - For heat fused: One ply of FLINTLASTIC FR CAP 30 T, FLINTLASTIC FR Cap 30 T CoolStar, FLINTLASTIC STA, FLINTLASTIC STA PLUS 5.0, FLINTLASTIC BLACK DIAMOND, FLINTLASTIC WHITE DIAMOND GTA, FLINTLASTIC WHITE DIAMOND GTA CoolStar, FLINTLASTIC GTA, FLINTLASTIC GTA CoolStar, FLINTLASTIC GTA-FR or FLINTLASTIC GTA-FR CoolStar. Application of a coating over the smooth surfaced FLINTLASTIC STA or FLINTLASTIC STA PLUS 5.0 roll roofing product is recommended, but not required.
  - For self-adhering: FLINTLASTIC SA Cap FR, FLINTLASTIC SA-P Cap, FLINTLASTIC SA-P Cap FR, FLINTLASTIC SA-P Cap CoolStar, FLINTLASTIC SA-P Cap FR CoolStar.



Two Staggered Rows



Three Staggered Rows

**Note:** The manufacturer's installation instructions shall be on the job site during the installation. All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC) and the International Building Code (IBC) with Texas Revisions.